WHAT IS CLAIMED IS:

1. A communications method for use in a communications system including a mobile node, a second node including a mobility agent module, and an application agent for performing application processing on packets originally directed to said mobile node, the method comprising:

operating said mobility agent module in said second node to receive packets with a destination address corresponding to said mobile node;

operating said mobility agent module to redirect at least some of the received packets with a destination address corresponding to said mobile node to said application agent instead of said mobile node;

operating the application agent to process application data in the payload of multiple redirected packets, said processing resulting in at least one application event, said resulting application event being a function of the processing of the payload content of multiple redirected packets; and

determining, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

2. The method of claim 1, wherein said application agent performs said determining step, the method further comprising:

operating said application agent to receive information indicating at least one paging trigger event, said information being received from one of said mobile node and an access router which serves as said mobile node's point of network attachment; and a paging policy server included in said communications system, said at least one paging trigger event being an application processing result.

3. The method of claim 2, wherein said application processing result is completion of a file download by a communications application, said downloaded file including multiple packets.

4 The method of claim 3, further comprising:

operating said mobile node to initiate said file download prior to said redirection of packets to said application agent;

operating said application agent to initiate a page to said mobile node in response to determining as a function of said resulting application event that said mobile node should be paged; and

operating said application agent to communicate at least a portion of said downloaded file to said mobile node.

5. The method of claim 2, wherein said application processing result is completion of decoding of a download file including multiple encoded packets.

6. The method of claim 2, wherein said application processing result is completion of a computation involving the processing of numbers included in the payload of multiple redirected packets.

7. The method of claim 6, wherein said application agent includes a spreadsheet application for performing said computation.

8. The communications method of claim 1, wherein determining whether said mobile node should be paged includes:

comparing said at least one resulting application event to stored application event information indicating at least one application result that is to trigger paging of said mobile node.

9. The communications method of claim 8, further comprising:

in response to determining, said mobile node should be paged,

i) initiating paging of said mobile node; and

ii) transmitting a signal to halt the redirection of at least some packets with a destination address corresponding to said mobile node so that said packets are directed to said mobile node.

10. The method of claim 8, wherein said second node includes packet flow filtering information, said packet flow filtering information identifying at least a first type of packet and a second type of packet, the first and second types of packets being different, the method further comprising:

operating said mobility agent in said second node to filter received packets with a destination address corresponding to said mobile node to distinguish between received packets of the first type and received packets of the second type, received packets of the first type corresponding to a first packet flow, received packets of the second type corresponding to a second packet flow, said mobility agent redirecting packets corresponding to the second packet flow to said application agent without redirecting said first packet flow.

11. The method of claim 10, further comprising:

comparing information in a packet of the first type to first paging event trigger information; and

paging said mobile node when information in said packet of the first type matches paging trigger information included in said first paging event trigger information.

12. The method of claim 10, further comprising:

operating said mobility agent to receive said filtering information from the application agent, said application agent generating said filtering information from information received from one of said mobile node and an access node which serves as a point of network attachment for said mobile node.

13. The method of claim 10,

wherein said application agent is an application proxy which operates as a proxy for a corresponding application executed on said mobile node; and

wherein packets of the first type correspond to a first application being executed by said mobile node while packets of the second type correspond to a second application which is being executed by said application agent.

14. The method of claim 10, further comprising:

operating the mobility agent to direct packets of the first type having an address corresponding to said mobile node to said mobile node while directing packets of the second type to said application agent.

15. The method of claim 10, further comprising the step of:

operating said mobility agent to initiate paging of said mobile node when said mobile node is in a sleep state and a packet of the first type having an address corresponding to said mobile node is received by said mobility agent.

16. The method of claim 10, wherein said mobility agent pages said mobile node in response to a paging message received from said application agent.

17. The method of claim 1, wherein the second node is one of a Mobile IP Home Agent node, a Mobile IP Regional node, a Mobile IP Foreign Agent node, and a Mobile IP Attendant.

18. The method of claim 1, wherein the application agent is located in the second node with the mobility agent.

19. The method of claim 1, further comprising a fourth node coupled to said second node, said fourth node including said application agent.

20. The method of claim 1, further comprising:

operating said application agent to transmit a first paging message to said mobility agent module when it is determined that said mobile node should be paged;

operating the mobility agent module to receive said first paging message; and

operating the second node to transmit, in response to said mobility agent receiving said first paging message, a paging message to said mobile node.

21. The method of claim 1, further comprising:

operating the mobile node to send a routing message to the mobility agent, said message including said at least some information.

22. The communications method of claim 1, wherein the application agent is in one of the second node and a fourth node, the fourth node being coupled to said second node.

23. A communications system comprising:

a mobile node including an application for processing packets directed to said mobile node;

an application agent including a mobile node proxy application and a set of application result processing trigger information;

a mobility agent module including means for receiving packets with a destination address corresponding to said mobile node and redirecting at least some of the received packets with a destination address corresponding to said mobile node to said application agent instead of said mobile node; and

said mobile node proxy application in said application agent processing data in the payload of multiple redirected packets, said processing resulting in at least one application event; said application agent further including means for determining, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

24. The communications system of claim 23, wherein said mobile node proxy further includes

means response to determining that said mobile node should be paged for initiating paging of said mobile node; and

means for transmitting a signal to halt the redirection of at least some packets with a destination address corresponding to said mobile node, after initiating paging of said mobile node, so that said packets are directed to said mobile node.

25. A communications method for use in a communications system including a mobile node, a second node including a mobility agent module, and an application agent for performing application processing on packets originally directed to said mobile node, the method comprising:

operating said mobility agent module in said second node to receive packets with a destination address corresponding to said mobile node;

operating said mobility agent module to redirect at least some of the received packets with a destination address corresponding to said mobile node to said application agent instead of said mobile node;

operating the application agent to process application data in the payload of at least one of said redirected application packets, said processing resulting in at least one application event; and

determining, as a function of said application event resulting from processing of said application data, and at least some paging trigger event information provided by said mobile node, whether said mobile node should be paged.

26. The communications method of claim 25, wherein determining whether said mobile node should be paged includes:

comparing said at least one resulting application event to stored application event information indicating at least one application result that is to trigger paging of said mobile node.

27. The communications method of claim 26, further comprising:

in response to determining, said mobile node should be paged,

i) initiating paging of said mobile node; and

ii) transmitting a signal to halt the redirection of at least some packets with a destination address corresponding to said mobile node so that said packets are directed to said mobile node.